ABSTRACT OF THE DISCLOSURE

There is provided an apparatus for producing a trip signal to activate a circuit breaker in an alternating current power line, said apparatus comprising: a sensing circuit operable to sense values representing: a phase difference between current and voltage in said power line; and current amplitude in said power line; a comparison circuit operable to compare said sensed values of phase difference and current amplitude with a trip characteristic defining fault conditions and non-fault conditions and to generate a fault indication signal when a fault condition arises; a fault discriminator operable in response to said fault indication signal to generate a fault-identifying signal discriminating between: a first class of fault in which a mean current value after said fault indication increases relative to a mean current value before said fault indication; and a second class of fault in which a mean current value after said fault indication does not increase relative to a mean current value before said fault indication; and a trip signal generator responsive to said fault-identifying signal and operable to generate said trip signal.